IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	
Robert M. CARLSON et al.	Group Art Unit: 1722
Application No.: 10/621,718	Examiner: Robert M. Kunemund
Filed: July 16, 2003	Confirmation No.: 1570
For: DIAMONDOID-BASED COMPONENTS IN NANOSCALE CONSTRUCTION	

RESPONSE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In complete response to the Official Action issued on June 30, 2006 applicants offer the following remarks.

In the Office Action, claims 1 and 15 are rejected under 35 U.S.C. §103 as being unpatentable over Spencer et al (U.S. Patent No. 6,531,107) taken in view of Merkle (*Nanotechnology*, Vol. 11). As well, the remaining claims 2-14 and 16-20 are also rejected under 35 U.S.C. §103 as being unpatentable over Spencer et al taken in view of Merkle. The Examiner's rejections of the claims of record are respectfully traversed by applicants for the following reasons.

The Spencer et al patent relates to the use of subunits called "synthons" for use in the design and manufacture of molecular nanostructures, machines and devices. The synthon is described as comprising polyhedra units and other species which exhibit rigid structural frameworks. Among the specific, presently available molecular units that can be used and qualify for construction on a nanoscale are borane and carborane clusters. A great deal of the discussion in Spencer et al is